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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,606	06/26/2001	Kazuyuki Shigeta	35.C15480	8670

5514 7590 04/19/2005

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,606

Applicant(s)

SHIGETA, KAZUYUKI

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is responsive to amendment filed on 11/19/2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-8, 13, 14, 20, 22-24, 29, 31, 33-36, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436).

Regarding claims 1, 5-7, 20, 22, 23, 33, 35, and 36, referring to Figs. 4, 6, 7, 9, and 11-13, Abe teaches an image display apparatus comprising an image signal generating unit (not shown) for generating an image signal (i.e., video signal input 21) (Fig. 4) and an image display element (i.e., TV display) for displaying an image on a screen according to the image signal inputted from the image signal generating unit, wherein when the screen is divided into a portion (i.e., main section) (Fig. 13A) in which the image is displayed and a dark display portion (i.e., blank zone) in which no image is displayed (from col. 8, line 59 to col. 9, line 65), non-dark display (i.e., teletext) (Figs. 13B-13D) is performed in the dark display portion for a predetermined time period (i.e., the character data are transmitted in the 14th H through 16th H and 21th H of vertical blanking period) from a start time of display control until a start time of a process for terminating the display control, and the predetermined time period is set such that when the non-dark display is performed for a time period not longer than the predetermined time period (Fig. 2A, col. 6, lines 25-33).

Abe differs from claims 1, 5-7, 20, 22, 23, 33, 35, and 36 in that he does not specifically teach visual interference seen by a viewer is suppressed. However, Abe teaches the non-dark display is performed in the dark display portion for a predetermined time period (Fig. 2A), not entire vertical blanking period. Accordingly, Abe teaches visual interference seen by a viewer is suppressed and avoid the image burn-in.

Regarding claim 2, Abe further teaches the image display element includes a plurality of modulation target units that are two-dimensionally arranged (col. 7, lines 37-42).

Regarding claim 3, Abe further teaches the image display element performs binary display (from col. 6, line 19 to col. 7, line 3).

Regarding claims 8, 40, and 41, Abe further teaches the image is displayed by sequentially irradiating the image display element with light in various colors and switching images in the colors displayed by the image display element in synchronization with the light irradiation, and the non-dark display is performed in a display period assigned to a specific color (col. 7, lines 19-25 and from col. 10, line 47 to col. 11, line 13).

Regarding claims 13, 14, 29, and 31, Abe further teaches a difference in aspect ratio between the image to be displayed (4:3) and the screen (16:9) causes the division of the screen into the portion in which the image is displayed and the portion in which no image is displayed (Fig. 13) (col. 8, lines 59-67).

Regarding claims 24 and 34, Abe differs from claims 24 and 34 in that he does not specifically teach a total effective time of the bright display accounts for a proportion exceeding 0% but not exceeding 20% of an entire display period. Abe teaches time of the bright display accounts for a proportion is determined by the blank zone location regulating section (302) (Fig.

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14) (col. 11, lines 1-65). However, it would have been obvious to obtain the proportion exceeding 0% but not exceeding 20% of an entire display period in order to avoid annoying users.

4. Claims 4, 12, 30, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (US Patent No. 5,734,436) in view of Sato et al. (US Patent No.: 5,534,940).

Regarding claim 4, Abe differs from claim 4 in that he does not specifically teach the non-dark display is an image reversal. However, referring to Figs. 4 and 8, Sato teaches non-dark display is an image reversal (col. 5, lines 33-52 and col. 7, lines 29-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is an image reversal as taught by Sato in the system of Abe in order to prevent deterioration on the display.

Regarding claims 12, 30, and 39, the combination of Abe and Sato teaches the image signal (f1, f2, and f3) transmitted from the image signal generating unit (not shown) to the image display element (50) is a pulse-width-modulated signal, and the image display element is driven by the pulse-width-modulated signal and displays a gradation image (col. 5, lines 21-31 of Sato) (Fig. 3).

5. Claims 9 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Nakai et al. (U.S. Patent No. 5,990,971).

Regarding claims 9 and 32, Abe further teaches the image display element performs binary display (from col. 6, line 19 to col. 7, line 3).

Abe differs from claims 9 and 32 in that he does not specifically teach the non-dark display is performed for a signal corresponding to a low gradation. However, referring to Figs.

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5a-5c, Nakai teaches the non-dark display is performed for a signal corresponding to a low gradation (col. 6, lines 14-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is performed for a signal corresponding to a low gradation as taught by Nakai in the system of Abe in order to avoid annoying users.

6. Claims 15-17, 21, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Preston (U.S. Patent No. 6,377,369).

Regarding claims 15, 17, and 26, Abe differs from claims 15, 17, and 26 in that he does not specifically teach the image display element is a spatial modulation element that uses a liquid crystal. However, Preston teaches the image display element is a spatial modulation element that uses a liquid crystal (from col. 3, line 56 to col. 4, line 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is a spatial modulation element that uses a liquid crystal as taught by Preston in the system of Nakamura in order to provide a display panel, which is easy to view and prevent image burn-in on the display panel.

Regarding claims 16, 21, and 25, the combination of Abe and Preston teaches the image display element is a spatial modulation element of an MEMS type (col. 2, lines 42-59 and col. 4, lines 12-25).

7. Claims 18, 19, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Shen et al. (U.S. Patent No. 6,486,900).

Regarding claims 18, 19, 27, and 28, Abe differs from claims 18, 19, 27, and 28 in

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that he does not specifically teach the image display element is an LED. However, Shen teaches the image display element is an LED (col. 10, lines 23-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is an LED as taught by Shen in the system of Abe in order to provide display device with light-emitting efficiency.

8. Claims 10, 11, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Millward et al. (U.S. Patent No. 6,064,366).

Regarding claims 10, 11, 37, and 38, Abe differs from claims 10, 11, 37, and 38 in that he does not specifically teach the non-dark display is cyclically performed at a frequency of 50 Hz. However, Millward teaches data is cyclically performed at a frequency of 50 Hz (from col. 11, line 60 to col. 12, line 10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is cyclically performed at a frequency of 50 Hz as taught by Millward in the system of Abe in order to allow the flicker rarely recognized and avoid annoying the users.

Response to Arguments

9. Applicants' arguments filed 11/19/2004, have been fully considered but they are not persuasive because as follows:

In response to Applicants' argument filed "Abe does not teach or suggest performing a non-dark display for a predetermined time period, with such a time period being set so that when the non-dark display is performed for a time period not longer than the predetermined time period, visual interference seen by a viewer is suppressed". Examiner does not agree. Abe teaches performing a non-dark display (i.e., character data) for a predetermined time period (i.e.,

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from 14th H through 16th H and 21th H of vertical banking period), with such a time period being set so that when the non-dark display is performed for a time period not longer than the predetermined time period, resulting reduce the visual interference to a viewer and avoid the image burn-in (Fig. 2A, col. 6, lines 25-33). Therefore, the rejection is still maintained.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

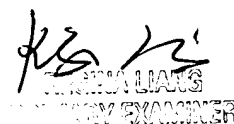
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JNguyen
03/30/2005


K. S. LIANG
ATTORNEY AT LAW